IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

LEE G. LAWRENCE ET AL.

Serial No.: 09/378,674

Filed: August 20, 1999

For: METHOD AND SYSTEM FOR MANIPULATING
BROADCAST SIGNALS

Group Art Unit: 2611

Examiner: V. Srivastava

Attorney Docket No.: MEDO 5007 PUS

APPEAL BRIEF

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Sir:

This is an appeal brief from the final rejection of claims 11-16 and 18 of the Final Office Action dated July 5, 2001, the Advisory Action dated August 16, 2001, and the Advisory Action dated September 24, 2001.

I. REAL PARTY IN INTEREST

The real party in interest is AT&T Broadband. AT&T Broadband acquired MediaOne Group, Inc. The original recorded assignment for this application is to MediaOne Group, Inc. The assignment is recorded on reel/frame 010195/0722. No further assignment is known by the undersigned to have been recorded.

II. RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences related to the present appeal.

III. STATUS OF CLAIMS

Claims 11-16 and 18 are pending in this application. Claims 11-16 and 18 have been rejected and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

After final rejection, responses were filed on July 31, 2001 and August 21, 2001. Neither response made any amendments to the claims.

V. SUMMARY OF THE INVENTION

The present invention relates to methods systems for manipulating broadcast signals. Page 1, lines 4-5. In a traditional cable architecture, the cable program originates at the headend or headend server. The headend sends a signal out to a plurality of hubs, and the signal continues to branch out, possibly through nodes in the neighborhood, and eventually reaches a large group of end users. Page 1, lines 7-18.

End customers desire a greater functionality than that provided by the traditional television signal distribution from the headend. Some cable companies have provided pay-per-view services to make television programming available to the customer upon request. Page 2, lines 10-19. There is also a customer demand for a device that has more advanced capabilities than a traditional video cassette recorder (VCR). Some smart recording devices have been introduced that attempt to record programming that the end customer prefers, without requiring the customer to repeatedly program the device other than initially setting his or her preferences in the memory of the device. Page 2, line 28 - page 3, line 2.

Although the smart recorders are providing a very useful service to the end customer that is dissatisfied with traditional cable broadcasting methods, traditional pay-per-view methods, and existing video cassette recorder (VCR) technologies, these devices are still very expensive, making the aggregate expense associated with providing these devices to an entire neighborhood or perhaps an entire area of service by a headend undesirably very costly. Page 3, lines 3-8.

The present invention provides a method and system for manipulating a broadcast signal that makes multiple streams available to the end user by utilizing a headend buffered storage queue. Page 3, lines 14-17.

With reference to Figures 1 and 4, claim 11 recites a method for manipulating a broadcast signal in a communication system 10 including a headend 14 that receives the broadcast signal and sends programming to a plurality of hubs 30, 32, 34. Each hub 30, 32, 34 sends the programming to at least one node 36, 50, 60, 70, 80 that distributes the programming to end users. The method comprises receiving 152 the signal at headend 14, and establishing 154 a buffered storage queue at the headend 14 that receives the signal. The method further comprises transmitting 156 a stream from headend 14. The stream passes through a hub and through a node to reach an end user. The stream is derived from the signal, and the stream originates from a user selected playback point in the buffered storage queue. Page 13, lines 7-12.

Embodiments of the present invention provide the economy of scale by eliminating the need to place a device at every customer residence. That is, integrating functionality (buffered storage queue) into the headend may eliminate the requirement of a customer set top box. Page 6, lines 14-17.

Pause, rewind, and fast-forward and various other features are described with reference to the embodiments of Figure 2 and Figure 3, but as explained in the specification,

the embodiments of Figures 2, 3, and 4 can be thought of as a continuum where the unicasting point moves from non-existent or at the residence (Figure 2), to the hub (Figure 3), or all the way to the headend (Figure 4). Page 13, lines 12-15. Claims 11-16 and 18 read on the embodiment of Figure 4.

Claim 12 further specifies that transmitting the stream further comprises unicasting a plurality of streams. Each stream is derived from the signal, and each stream originates from a corresponding user selected playback point in the storage queue. That is, the buffered storage queue includes sliding window 48, and the user selects a playback point within the sliding window 48. The stream is unicast to the customer from the playback point.

Claim 13 recites that the method further comprises, in response to a user at the destination requesting to pause, sliding the user selected playback point within the queue at such a rate to cause the playback point to remain substantially stationary in time. In response to a user at the destination requesting to resume, the sliding is stopped. Page 10, line 24 - page 11, line 9.

Claim 14 recites that the method further comprises, in response to a user at the destination requesting to rewind, sliding the user selected playback point within the queue at such a rate to cause the playback point to move backward in time. In response to a user at the destination requesting to resume, the sliding is stopped. Page 11, lines 10-17.

Claim 15 recites that the method further comprises, in response to a user at the destination requesting to fast-forward, sliding the user selected playback point within the queue at such a rate to cause the playback point to move forward in time. In response to a user at the designation requesting to resume, the sliding is stopped. Page 11, lines 18-27.

Claim 16 recites that the method further comprises receiving 158 the stream at the destination, and establishing 160 a buffered storage queue at the destination that receives

the stream. In response to a user selecting a desired position in the destination buffered storage queue, the stream is played 162 at the destination from the desired position in the destination buffered storage queue. Page 12, lines 14-21 and page 13, lines 16-20.

Claim 18 recites a system for manipulating a broadcast signal. The system comprises a communication system 10 including a headend 14, a plurality of hubs 30, 32, 34, and a plurality of nodes 36, 50, 60, 70, 80 that distribute programming to end users. Headend 14 receives the signal, and is operative to establish a buffered storage at headend 14. Headend 14 is further operative to transmit a stream from headend 14. The stream passes through a hub and through a node to reach an end user. The stream is derived from the signal and the stream originates from a user selected playback point in the buffered storage queue. Page 6, lines 3-8, and Figure 1.

VI. ISSUES

1.   Whether claims 11-15 and 18 are unpatentable over *Atalla et al.* (U.S. Patent No. 5,477,263) in view of *Lawrence et al.* (U.S. Patent No. 5,555,277).

2.   Whether claim 16 is unpatentable over *Atalla et. al.* in view of *Lawrence et al.*, further in view of *Logan et al.* (U.S. Patent No. 5,371,551).

VII. GROUPING OF CLAIMS

Claims 11-15 and 18 stand or fall together.

VIII. ARGUMENT

The Examiner has rejected claims 11-15 and 18 under 35 U.S.C. § 103(a) as being unpatentable over *Atalla* in view of *Lawrence*. The Examiner states that *Atalla* discloses the claimed invention except for a communication system including a headend which sends programming to a plurality of hubs, with each hub sending the programming to at least one node that distributes the programming to end users. The Examiner relies on *Lawrence* for that

which *Atalla* fails to disclose. Applicants disagree with the Examiner's interpretation of *Atalla*.

Regarding claim 11, *Atalla* fails to describe or suggest that the communication system includes a headend, a plurality of hubs, with each hub sending the programming to at least one node that distributes the programming to end users. *Atalla* further fails to describe or suggest that the buffered storage queue is located at the headend and that the stream is transmitted from the headend, with the stream originating from a user selected playback point in the buffered storage queue, and with the stream passing through a hub and a node to reach the end user. In addition, *Lawrence* fails to describe or suggest that the buffered storage queue is located at the headend and that the stream is transmitted from the headend, with the stream originating from a user selected playback point in the buffered storage queue, and with the stream passing through a hub and a node to reach the end user.

Atalla describes a video on demand distribution system and method. In contrast to the claimed invention, *Atalla* describes a number of community systems. A particular community system includes moving memory modules, a microcell access switch, and a number of microcells. In operation of the *Atalla* system, the user requests a video that is either present in the moving memory modules or may be downloaded thereto. Once the demanded video is present in the moving memory modules, *Atalla* describes the use of a microcell to control the sending of the video to the user. The microcell does utilize a buffer that, through a bus interface, receives information from the moving memory modules. However, the moving memory modules cyclically distribute the entire set of programs. As such, the microcell access switch acts as a local node that serves a number of users. The video source or headend in *Atalla* is the master file/host 11 of Figure 1. In operation, the master file/host sends an entire video file to the microcell access switch at one time. The entire video file is then cyclically distributed by the moving memory modules.

That is, *Atalla* fails to describe or suggest transmitting a stream from the headend that originates from a user selected playback point in the buffered storage queue with

the stream passing through a hub and through a node to reach the end user, as recited in claim 11. The complex distribution scheme in *Atalla* is far different than the claimed invention. Further, *Lawrence* fails to describe or suggest the subject matter of claim 11 that is lacked by *Atalla*.

More specifically, the Examiner has directed Applicants' attention to buffered storage described in *Atalla* in column 3, lines 16-46, and column 4, lines 32-67. Claim 11 recites that the buffered storage queue is located at the headend, and that the stream is transmitted from the headend. Buffer memory 52 in *Atalla*, though a bus interface, receives information from the moving memory modules. However, the moving memory modules cyclically distribute the entire set of programs. As such, the microcell access switch acts as a local node that serves a number of users. Again, the video source or headend in *Atalla* is the master file/host 11 of Figure 1. Buffer memory 52 is not located at a headend in *Atalla* as recited by claim 11.

The complex distribution scheme in *Atalla* is far different than the claimed invention. *Lawrence* fails to describe or suggest the subject matter that is lacked by *Atalla*. Further, it is not obvious to modify *Atalla* or *Lawrence* to achieve the claimed invention. Specifically, because both *Lawrence* and *Atalla* fail to describe or suggest the buffered storage queue at the headend wherein the stream is transmitted from the headend with the stream originating from a user selected playback point in the buffered storage queue, any combination of *Atalla* and *Lawrence* still fails to describe or suggest the claimed invention.

Claims 12-15 depend from claim 11 and are also believed to be patentable. Claim 18 recites similar language to claim 11 and is also believed to be patentable for similar reasons. Specifically, claim 18 recites the headend establishing a buffered storage queue at the headend, and transmitting a stream from the headend with the stream passing through a hub and through a node to reach an end user. The stream is derived from the signal, and originates from a user selected playback point in the buffered storage queue.

The Examiner has rejected claim 16 under 35 U.S.C. § 103(a) as being unpatentable over *Atalla* in view of *Lawrence*, further in view of *Logan*. Claim 16 depends from claim 11. *Logan* fails to describe or suggest the subject matter lacked by *Atalla* and *Lawrence*. As such, claim 16 is also believed to be patentable.

IX. SUMMARY

For reasons discussed above, it is respectfully submitted that claims 11-16 and 18 are patentable. Claims 11-15 and 18 are believed to be patentable over *Atalla* in view of *Lawrence*. Claim 16 is believed to be patentable over *Atalla* in view of *Lawrence*, further in view of *Logan*.

The final rejection of claims 11-16 and 18 under 35 U.S.C. § 103(a) should be reversed.

The fee of $320.00 as applicable under the provisions of 37 C.F.R. § 1.17(c) is enclosed. Please charge any additional fee or credit any overpayment in connection with this filing to our Deposit Account No. 02-3978.

Respectfully submitted,

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Enclosure - Appendix

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X. APPENDIX - CLAIMS ON APPEAL

Claims 11-16 and 18 are pending.

11. A method for manipulating a broadcast signal in a communication system including a headend that receives the broadcast signal and that sends programming to a plurality of hubs with each hub sending the programming to at least one node that distributes the programming to end users, the method comprising:

receiving the signal at the headend;

establishing a buffered storage queue at the headend that receives the signal; and

transmitting a stream from the headend, the stream passing through a hub and through a node to reach an end user, the stream being derived from the signal, and the stream originating from a user selected playback point in the buffered storage queue.

12. The method of claim 11 wherein transmitting the stream further comprises:

unicasting a plurality of streams, each steam being derived from the signal, and each stream originating from a corresponding user selected playback point in the storage queue.

13. The method of claim 11 wherein the stream is being received and played at a destination, the method further comprising:

in response to a user at the destination requesting to pause, sliding the user selected playback point within the queue at such a rate to cause the playback point to remain substantially stationary in time; and

in response to a user at the destination requesting to resume, stopping the sliding.

14.   The method of claim 11 wherein the stream is being received and played at a destination, the method further comprising:

in response to a user at the destination requesting to rewind, sliding the user selected playback point within the queue at such a rate to cause the playback point to move backward in time; and

in response to a user at the destination requesting to resume, stopping the sliding.

15.   The method of claim 11 wherein the stream is being received and played at a destination, the method further comprising:

in response to a user at the destination requesting to fast-forward, sliding the user selected playback point within the queue at such a rate to cause the playback point to move forward in time; and

in response to a user at the destination requesting to resume, stopping the sliding.

16.   The method of claim 11 wherein the stream has a destination, and wherein the method further comprises:

receiving the stream at the destination;

establishing a buffered storage queue at the destination that receives the stream; and

in response to a user selecting a desired position in the destination buffered storage queue, playing the stream at the destination from the desired position in the destination buffered storage queue.   .

18.   A system for manipulating a broadcast signal, the system comprising:

a communication system including a headend, a plurality of hubs and a plurality of nodes that distribute programming to end users, the headend receiving the signal, the headend being operative to establish a buffered storage queue at the headend, and the headend

being further operative to transmit a stream from the headend, the stream passing through a hub and through a node to reach an end user, the stream being derived from the signal, and the stream originating from a user selected playback point in the buffered storage queue.

TRANSMITTAL LETTER

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Sir:

Enclosed with reference to the above matter are the following documents:

1.   Appeal Brief (in triplicate)

2.   A check for $320.00 for the fee under 37 C.F.R. § 1.17(c) for this Appeal Brief.

The Commissioner is hereby authorized to charge any additional fees to our Deposit Account No. 02-3978.

Respectfully submitted,

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